

### **REMARKS**

This is a full and timely response to the outstanding non-final Office Action mailed March 6, 2007. The Examiner is thanked for the thorough examination of the present application. Upon entry of this response, claims 1-21 are pending in the present application. The drawings are objected to for allegedly failing to comply with 37 CFR §1.84. Claims 1-21 are rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over *Hann et al.* (U.S. Pat. No. 6,535,520, hereinafter "*Hann*") in view of *Tzannes et al.* (U.S. Pat. Pub. 2003/0091053). Applicant has amended the specification to correct a minor typographical error. Applicant respectfully requests consideration of the following remarks contained herein. Reconsideration and allowance of the application and presently pending claims are respectfully requested.

#### **I. Drawings**

The Office Action has objected to the drawings. Applicant respectfully disagrees with the drawing objections, and submits that the present drawings should be accepted.

In addition, the present application has already published with the current drawings, and the drawings have proven acceptable for examination purposed. If the Examiner maintains the objections, Applicant will submit formal drawings after receiving an indication of allowable subject matter.

## II. Response to Claim Rejections Under 35 U.S.C. § 103

Claims 1-21 stand rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over *Hann* in view of *Tzannes*. For at least the reasons set forth below, Applicant traverses these rejections.

### **Independent Claim 1**

Claim 1 recites (emphasis added):

1. A method for optimizing cell available (CLAV) status polling, the method comprising the steps of:
  - determining a first connection speed having a first associated set of PHY addresses and a second connection speed having a second associated set of PHY addresses;
  - arbitrating status polling based at least in part on a polling ratio involving the first connection speed and the second connection speed;**
  - polling the first and second associated set of PHY addresses to determine a CLAV status for each PHY address, according to the polling ratio;
  - determining whether each PHY address of the first and second connection speed requires polling; and
  - re-polling at a connection speed wherein at least one PHY address of the connection speed requires polling.

Applicant submits that claim 1 is patentable over *Hann* in view of *Tzannes* for at least the reason that the combination fails to disclose, teach or suggest the features emphasized above in claim 1. Specifically, the combination fails to teach of “arbitrating status polling based at least in part on a polling ratio involving the first connection speed and the second connection speed.” Applicant agrees that the *Hann* reference “does not expressly disclose status polling based at least in part on a polling ratio and polling according to the polling ratio.” (See Office Action, pg. 4.) The Office Action, instead, relies on the *Tzannes* reference to allegedly teach this figure. Applicant respectfully disagrees and submits that *Tzannes* does not disclose “status polling based at least in

part on a polling ratio and polling according to the polling ratio,” as asserted in the Office Action. The Office Action alleges that this feature is taught in paragraphs 43 and 44 of the *Tzannes* reference, shown below:

[0043] For the multi-pair multiplexing transmitter 300 illustrated in FIG. 5, an unequal data rate is transported on the DSL PHYs. In particular, if a data rate on all the DSL PHYs is not equal, the ATM cells can be forward to the DSL PHYs, at, for example, a ratio that matches the ratios of the available PHY data rates. If, for example,  $N=2$ , as illustrated in FIG. 5, and the data rate of the first DSL PHY 360 is two times the data rate of the second PHY 370 . . . . However, in general, this basic concept can be expanded at least to include the situation where  $N>2$  and to non-integer data rate ratios.

[0044] For example, in a two modem environment where there is a "high-speed" and a "low-speed" implementation, an exemplary ratio of  $N:1$  where  $N=2$  to 8 can be specified. This means that the "high-speed" modem will have eight times the cells as the "low-speed" modem . . . .

While the *Tzannes* reference does indeed disclose a “ratio,” this ratio refers to the ratio of the available PHY data rates and not to the specific context of a polling ratio. In paragraph 44, *Tzannes* discusses a two modem environment which includes a high-speed and a low-speed implementation where the high-speed modem will have  $N$  (where  $N:1$  is the ratio) times the cells as the low-speed modem. However, *Tzannes* fails to relate to (or even address) a polling scheme where Physical Interface (PHY) addresses are polled.

The *Tzannes* reference relates to combining “multiple DSL PHY's, *i.e.*, multiple twisted wire pairs, to, for example, generate a high data rate connection for the transport of an ATM cell stream between the service provider and, for example, a DSL subscriber.” (*Tzannes*, Abstract). *Tzannes* does not teach of any type of (UTOPIA) Cell Available (CLAV) polling arbitration. The ratio taught by *Tzannes* is utilized in the event that the data rates on all the DSL PHYs are

not equal. In these instances, the ATM cells can be forwarded to the DSL PHYs at a ratio that matches the ratios of the available PHY data rates. Applicant respectfully submits that *Tzannes* does not disclose, teach, or suggest any type of “status polling,” as asserted on page 4 of the Office Action. The mere fact that *Tzannes* teaches of a “ratio” in the general context of ATM communications does not equate to a teaching of a “polling ratio.”

Accordingly, Applicant respectfully submits that independent claim 1 patently defines over *Hann* in view of *Tzannes* for at least the reason that neither reference teaches the features emphasized in claim 1 above.

### **Dependent Claims 2-10**

Applicant submits that dependent claims 2-10 are allowable for at least the reason that these claims depend from an allowable independent claim. See, e.g., *In re Fine*, 837 F. 2d 1071 (Fed. Cir. 1988).

### **Independent Claim 11**

Claim 11 recites (emphasis added):

11. A system for optimizing cell available (CLAV) status polling, the system comprising:

a determining connection speed module for determining a first connection speed having a first associated set of PHY addresses and a second connection speed having a second associated set of PHY addresses;

**an arbitrating status polling module for arbitrating status polling based at least in part on a polling ratio involving the first connection speed and the second connection speed;**

a polling module for polling the first and second associated set of PHY addresses to determine a CLAV status for each PHY address, according to the polling ratio;

a determining PHY address status module for determining whether each PHY address of the first and second connection speed requires polling; and

a re-polling module for re-polling at a connection speed wherein at least one PHY address of the connection speed requires polling.

As discussed above for independent claim 1, the *Tzannes* reference does not disclose “status polling based at least in part on a polling ratio and polling according to the polling ratio . . . ” (See Office Action, p. 9.) As such, Applicant submits that the combination of *Hann* in view of *Tzannes* fails to teach the feature, “an arbitrating status polling module for arbitrating status polling based at least in part on a polling ratio involving the first connection speed and the second connection speed.”

Again, the Office Action cites paragraphs 43 and 44 from the *Tzannes* reference. While the *Tzannes* reference does indeed disclose a “ratio” in these text passages, this ratio refers to the ratio of the available PHY data rates and not to a polling ratio. In paragraph 44, *Tzannes* discusses a two modem environment which includes a high-speed and a low-speed implementation where the high-speed modem will have N (where N:1 is the ratio) times the cells as the low-speed modem. However, *Tzannes* fails to relate to (or even address) a polling scheme where Physical Interface (PHY) addresses are polled. The mere fact that *Tzannes* teaches of a “ratio” in the general context of ATM communications does not equate to a teaching of a “polling ratio.” Accordingly, Applicant respectfully submits that independent claim 11 patently defines over *Hann* in view of *Tzannes* for at least the reason that neither reference teaches the features emphasized in claim 11 above.

**Dependent Claims 12-20**

Applicant submits that dependent claims 12-20 are allowable for at least the reason that these claims depend from an allowable independent claim. See, e.g., *In re Fine*, 837 F. 2d 1071 (Fed. Cir. 1988).

**Independent Claim 21**

Claim 21 recites (emphasis added):

21. A computer readable medium, the computer readable medium comprising a set of instructions for optimizing cell available (CLAV) status polling and being adapted to manipulate a processor to:

determine a first connection speed having a first associated set of PHY addresses and a second connection speed having a second associated set of PHY addresses;

**arbitrate status polling based at least in part on a polling ratio involving the first connection speed and the second connection speed;**

poll the first and second associated set of PHY addresses to determine a CLAV status for each PHY address, according to the polling ratio;

determine whether each PHY address of the first and second connection speed requires polling; and

re-poll at a connection speed wherein at least one PHY address of the connection speed requires polling.

As discussed above, the *Tzannes* reference does not disclose “status polling based at least in part on a polling ratio and polling according to the polling ratio . . . .” (See Office Action, p. 13.) As such, Applicant submits that the combination of *Hann* in view of *Tzannes* fails to teach the feature, “arbitrate status polling based at least in part on a polling ratio involving the first connection speed and the second connection speed.”

Again, the Office Action cites paragraphs 43 and 44 from the *Tzannes* reference. While the *Tzannes* reference does indeed disclose a “ratio” in these text passages, this ratio refers to the ratio of the available PHY data rates and not to a polling ratio. In

paragraph 44, *Tzannes* discusses a two modem environment which includes a high-speed and a low-speed implementation where the high-speed modem will have N (where N:1 is the ratio) times the cells as the low-speed modem. However, *Tzannes* fails to relate to (or even address) a polling scheme where Physical Interface (PHY) addresses are polled. The mere fact that *Tzannes* teaches of a "ratio" in the general context of ATM communications does not equate to a teaching of a "polling ratio." Accordingly, Applicant respectfully submits that independent claim 21 patently defines over *Hann* in view of *Tzannes* for at least the reason that neither reference teaches the features emphasized in claim 21 above.

### **III. Prior Art Made of Record**

The prior art made of record has been considered, but is not believed to affect the patentability of the presently pending claims.

### **CONCLUSION**

Applicant respectfully submits that all pending claims are in condition for allowance. Favorable reconsideration and allowance of the present application and all pending claims are hereby courteously requested. If, in the opinion of the Examiner, a telephone conference would expedite the examination of this matter, the Examiner is invited to call the undersigned attorney at (770) 933-9500.

No fee is believed to be due in connection with this amendment and response to Office Action. If, however, any fee is believed to be due, you are hereby authorized to charge any such fee to deposit account No. 20-0778.

Respectfully submitted,

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